RW CAREWare

Version 3.5

Clinical Encounter and Referrals Form (CERF)

Software Manual for CARE Act Grantees and Providers

November 2003

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Clinical Encounter and Referrals Form (CERF)

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Background/Overview:

Since Version 3.0, CAREWare has included a Clinical Encounter and Referrals Form (CERF) that enables users to:

- Track in detail a variety of encounter-based clinical information and referrals to supportive services;
- Dynamically graph all quantitative laboratory, vital sign information and medications
- Maintain case management and clinic notes and track referrals
- Produce a number of reports to monitor the quality of clinical care at a client and clinic level.

The CERF is adapted from a software package called HEMS that was developed through the Institute of Healthcare Improvement's work with the Title III, primary care, early intervention clinics. Important features of HEMS have been retained including the ability to enter, track and recall clinical information from a specific date or encounter; print an encounter form that shows clinical and referral information from the most recent visit prior to the current and provides space to write in any new findings; and a variety of reports to assess the quality of HIV care on both a client and agency level.

Graphing:

- Plot by test date *any* of the quantitative continuous lab and vital sign measures; plot two lab values on the same graph, for example CD4 count and viral load; customize the labs section and include your own tests and normal ranges.

- Chart medication start and stop dates and capture the reason why medications were stopped.

Quality of Care: A number of quality of HIV care reports are also included that will allow for an easy and consistent way to track overall agency and client-specific care.

Where applicable, data entered through the CERF will be written to existing fields in the Clinical Review section of CAREWare, allowing use of the custom report and crosstab wizard features already in the software.

Modules/Fields in the CERF

- **Medications**—Type, doses, start and stop dates, reason for discontinuing-contains customizable list of over 1500 generic names.

- **Laboratory values**—CD4, viral load, WBC, creatinine, glucose, hemoglobin, platelets, albumin, Cholesterol (Total, HDL, LDL), ALT, AST—customizable

- **Screening Labs/serology**: Hepatitis A/B/C antibody/antigens, Syphilis (RPR), Toxoplasma-customizable

- **Vital signs**- Height, weight, blood pressure, temperature (body mass index is also calculated and can be plotted); HIV-related hospitalizations and ER admissions.

- **Immunizations**-Hepatitis A and B and Twinrix (version 3.3), Pneumovax, Influenza, Tetanus, MMR, Varicella, Titer (if applicable)

- **Screening**- PPD, Pap Smear, Colposcopy -customizable

- **Diagnoses:** Track HIV and non-HIV related diagnoses. Stores ICD-9-CM codes.

- **Referrals**

- **Case/clinical notes-large note fields essential for case management and recording clinical notes**

Many features in the CERF are customizable, enabling users, for example, to add their own lab and screening tests, and change normal ranges for any of these.

New Features in Version 3.5

- **All CERF Modules have been added to the Custom Reports**, including Vital Signs, Medications, Labs, Screening Labs, Screenings, Immunizations, and Diagnoses.

- **Customizable name field has been added to the Medications module**. One of the limitations of the list of generic/active ingredients in CAREWare (derived from the Medicaid database) is that, except for antiretrovirals, only single ingredients are listed. So, for example, drugs with 2 or more active ingredients, like Bactrim (trimethoprim and sulfamethoxazole) could not be entered directly. The customizable field in version 3.5 will allow you to use any name you wish to apply to a specific medication. See page 14.

- **Allergy text field added to the medications module**. A simple text field labeled 'Allergies' has been added to the medications module. This field will print out on the client's encounter report whenever the medications section is included. **See page 12**.

- **Two New Clinical Encounter Reports: Medications and Diagnoses.** Quickly print out lists of clients prescribed specific combinations of medications or diagnosed with specific conditions. You can also click a button to exclude HIV negatives from all clinical encounter reports. **See page 30**.

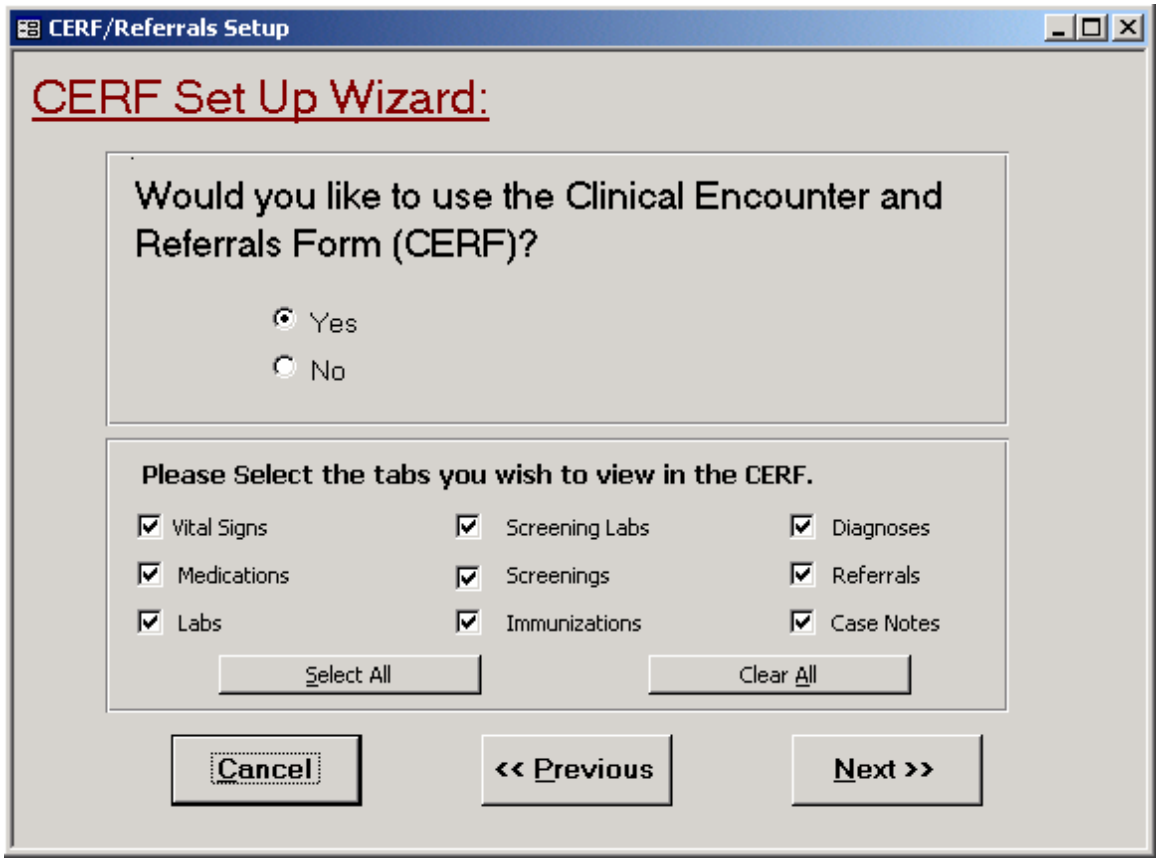
How to Use the new Clinical Encounter and Referral Form or CERF

While the CERF provides a platform to enter, graph and print out a wide range of clinical information, it may not be appropriate for all providers. Don't hesitate to contact the HIV/AIDS Bureau if you have any questions or are unclear whether your agency should use the CERF.

Setup Wizard: Choosing the CERF, or Not

To elect whether or not to enter data in the CERF:

- Go to Administrative Options and enter the Set Up Wizard. Indicate if you want to enter specific data through the CERF by clicking the appropriate box.
- Based on your clinic's needs, you may also turn on or off specific tabs within the CERF, or simply 'Select All'.



IMPORTANT DATA ENTRY HOUSEKEEPING ISSUE:

If you elect to use the CERF, then certain values can only be entered through the CERF, and not in the Clinical Review section of CAREWare. We designed the setup in this fashion in order to avoid the inevitable confusion and discrepancies that would arise if the same information could be entered into CAREWare in two separate locations.

If you elect to use the CERF, then lab values such as CD4 counts and viral loads, screening serologies for sexually transmitted infections and Hepatitis A/B/C, and diagnoses of AIDS-defining conditions, *can only be entered through the CERF*: CAREWare will copy to the appropriate field in the Clinical Review any values entered in the CERF that have identical counterparts, but (for the most part) these values will be READ ONLY in the Clinical Review tabs, that is, you won't be able to edit them; they can only be changed in the CERF. However, you will still be able to use all these clinical review fields in the existing CAREWare custom reports and crosstab wizard.

For example, say that your clinic uses the CERF. If you enter a CD4 count on February 14, 2002 for client Jane Doe, that CD4 count will be appear as well in the Clinical Review, Quarter 1 tab of CAREWare. However, you will not be able to change that value when viewed in the Quarter 1 Tab; you will only be able to edit it by going into the Labs module of the CERF. Again, we have designed the application in this way so as to avoid the confusion that will inevitably result by having two places in CAREWare to enter the same data.

CERF to Clinical Review Translation

PLEASE SEE the table on page 34 for an outline of the specific fields translated from the CERF into the Clinical Review.

How/when the translation operates:

As new clinical data is entered in the CERF, CAREWare will translate these updated values to their direct counterparts in the Clinical Review (CR) (see appendix list). This update will simply occur on a field-by-field basis. In other words, your Clinical Review data for a given year will not be overwritten unless and until a new value has been entered in the CERF. Remember, detailed information on antiretrovirals entered in the CERF could affect multiple years of quarterly clinical review data depending on a medication's start and stop date.

- If you elect to use the CERF, you can turn on or off any of the CERF tabs. For example, if your agency does not collect information on Immunizations, you can hide this tab so it does not clutter your screen or confuse your data entry personnel.

- Agencies that elect *not* to use the CERF will simply not see any of the CERF tabs **Referrals and Case Notes are 2 Features than can also be used by non-CERF Users**. See pages 27 and 28.

How CERF data entry works

Depending on how your clinic or agency operates, and on what type of information is being entered on a client (e.g. vital signs vs. labs or medications), data entry in the CERF can be undertaken and managed in a couple ways

How the CERF works with Encounter Dates:

- **Today's Encounter**: Information entered on the actual date of the current encounter should be entered by clicking "New Encounter" at the top of the Clinical Review tab (see Figure 1 below). For example, if the clinical encounter is on December 15th and you are actually entering information on that date, click New Encounter.

- **Past Encounters**: Previous encounters can be created by entering a visit date in the Past Encounter tab. Batch information entered ***before or after*** the actual encounter date can be entered through the **Rapid Data Entry** feature. Rapid Data Entry is an efficient method for entering a lot of data at once, for example a batch of lab results.

  Going through Vital Signs Rapid Entry: Encounter dates are associated directly with vital signs information. Therefore, you can also **create past encounters** by entering ANY data in the vital signs rapid entry screen. We assume that, if you measured the client's body weight or temperature or blood pressure, then it is quite likely this was in a formal clinical encounter.

- To retrieve a past encounter, click the 'Past Encounter' Tab on the main Clinical Review page and select the appropriate date from the list.

- **Important**: When you retrieve a "past encounter," the date of that past encounter will appear as the visit date, NOT the current date. For example, say that today is December 15th and you need to enter or edit data for a client who had an encounter on October 1st. If you click Past Encounter and then select the October 1st visit, that date (Oct. 1st) and *not* the actual date on which you are entering data (December 15th) will appear as the Visit Date.

- **Rapid Data Entry** is also the place to go to graph lab values, vital signs and medications.

- It's important to note that a clinical encounter entered in the CERF is NOT the same as entering a visit in the Service Tab.

A. In advance of the clinical encounter/Encounter Report:

Before a given client comes into your agency for a primary care visit, you can print out an **encounter report (ER)** that contains the individual's demographic information, as well as clinical and referral data from the most recent encounter. **See page 31 for details on producing the ER.**

Encounter Report preprint feature. This feature allows you to print in advance of the actual clinical visit encounter reports for as many clients as needed. For example, if your clinic had 15 visits scheduled for tomorrow, you could print out today, or any time in advance, the clinical encounter reports for all those clients. Again, please **see page 32 for details on producing the ER.**

Why you should print out a pre-visit encounter report: The pre-visit encounter report will give the provider a comprehensive overview of a client's clinical status and additional information including referrals and case management notes. The encounter report will include blank spaces for filling in vital sign and clinical data obtained on the date of the actual visit, and for writing detailed case notes. Through the **Rapid Entry** screens a variety of plots can be generated to show how clinical values have changed over any time range (by default in the last year), including CD4 count, viral load, body weight, and any other quantitative lab or vital sign value.

B. On the day of the encounter

On the day of the clinical encounter itself, providers of care can write in any findings on the pre-printed encounter report (described above) and have that data entered into CAREWare at a later time. It is also possible, of course, that the health care provider or case manager could enter the clinical and case note information directly into the computer, as the client is being seen, or immediately after the visit. In addition, *a paper-based, hard copy of the encounter report can be readily printed and stored in a standard file for the medical record.*

C. After the encounter

It is likely that much of the clinical information collected during the encounter will be most easily entered in batch (all at one time, perhaps for a number of clients) days after the encounter. Of course, lab results that are not returned for days or weeks will be entered retroactively. The CERF is flexible in this regard, enabling **rapid data entry** anytime after the actual encounter or through creation of a "Past Encounter" on the main Clinical Review screen of CAREWare.

D. Deleting an Encounter

IMPORTANT Data cleaning note: The CERF is set up such that an encounter, with an affiliated date, is created as soon as you go into the vital signs module. An encounter date is created **even if you don't enter any vital signs information** for that date. If this encounter was created incorrectly--e.g. it really occurred on another day--you may delete the incorrect encounter record as long as you delete all CERF data entered *for that encounter only*. We've also provided a function to produce a list of blank clinical encounters that can then be deleted.

IMPORTANT!

Entering the CERF

The CERF is entered through the Clinical Review Tab in CAREWare (Figure 1). As outlined above, you can create a **New Encounter**, create or retrieve a **Past Encounter**, or enter the **Rapid Entry** screen for any of the main CERF modules.

Important: If you retrieve an encounter prior to the current date, the CERF will show this prior encounter date as the "current" visit, although it literally means the visit for which you are entering data.

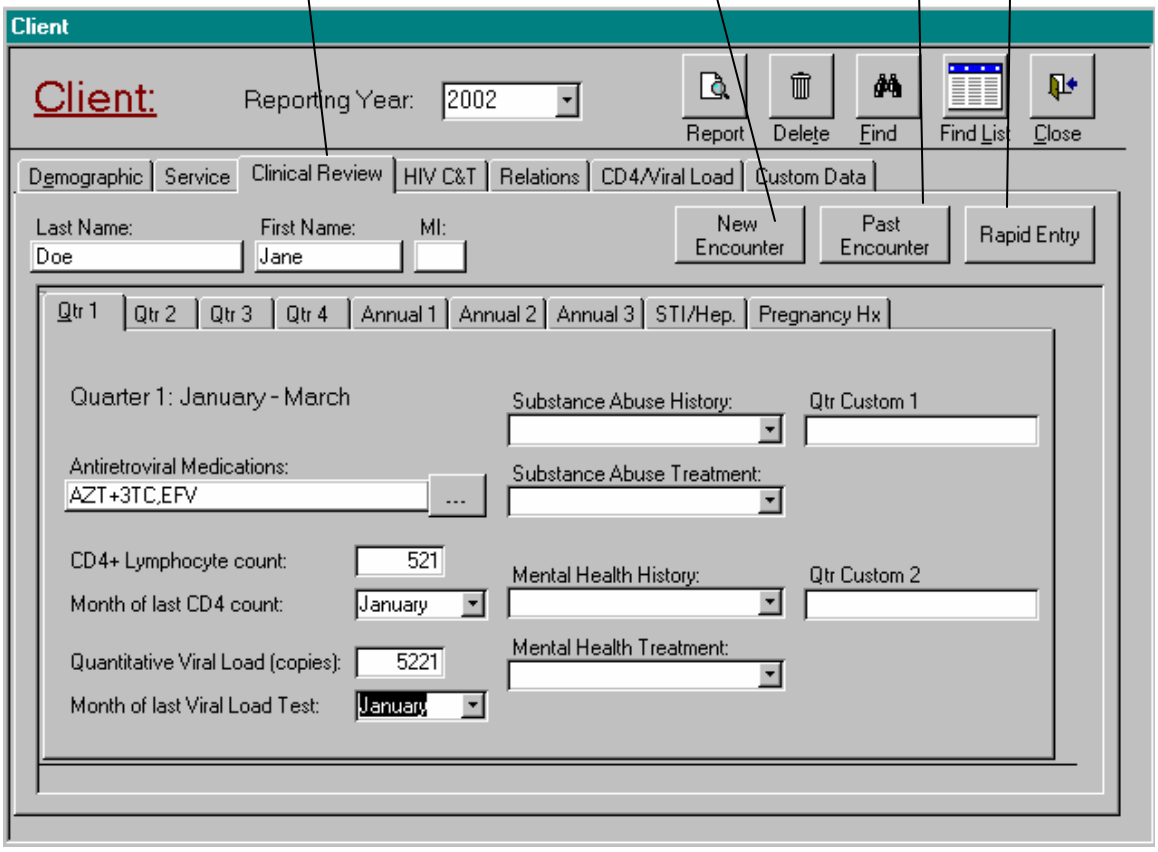
Click Clinical Review Tab to view main CERF Encounter and Rapid Entry tabs.

2. Click Past Encounter to create or go to any prior encounter.

3. Check Rapid Entry to enter information from any prior encounter directly into any of the CERF modules.

1. New encounters will default to the current date.

Figure 1.



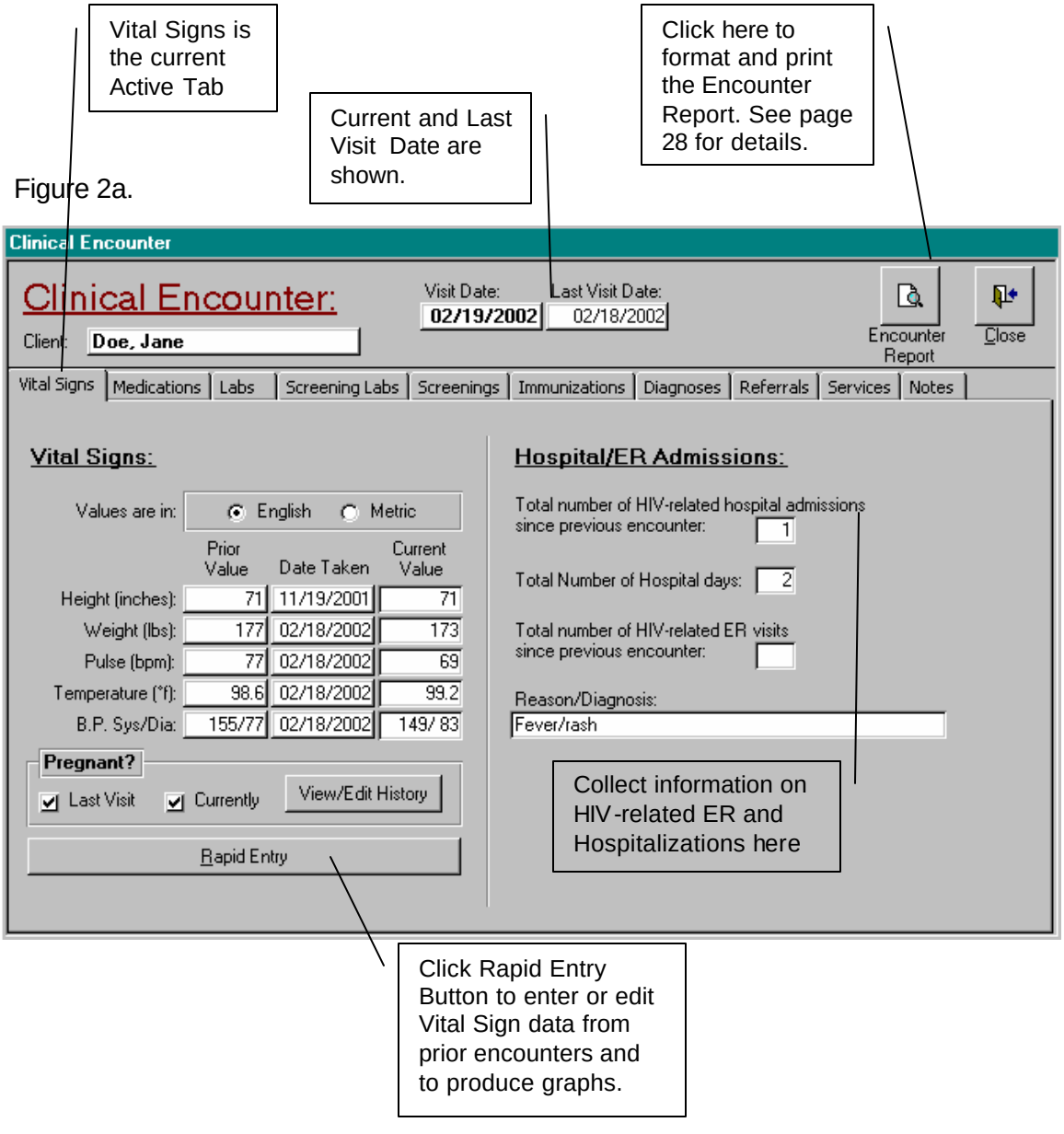
New Encounter: Entering Data on the actual visit date

Say that the current date is 02/19/2002 and Jane Doe is in the office or it's the end of the day and your data management personnel are ready to enter data on the same day as the client's actual encounter. To do this, you'll need to select "New Encounter. "

The current Visit Date, noted at the top of the form, is 02/19/2002; also shown is the Last Visit Date (in this case it's 02/18/2002). If you were entering data for one of Jane Doe's prior encounters, you should select **Past Encounter** and create or select a prior visit date.

Next, you'll note the ten major tabs available in the CERF: Vital Signs, Medications, Labs, Screening Labs, Screening, Immunizations, Diagnoses, Referrals, Services, and Case Notes. In **Figure 2a** we've selected the **Vital Signs** screen.

Figure 2a.



Vital Signs

The Vital Signs screen is shown in Figure 2a. Important features include the ability to:

- Toggle back and forth between English (the default) and metric units
- Access Pregnancy History for female clients;
- Track Number of HIV-related Hospitalizations, hospital days and ER visits since prior encounter

Vital Signs Rapid Entry

The Vital Signs Rapid Entry screen is shown in Figure 2b. Use this screen to enter or edit vital sign values from a past encounter.

Charts and Graphs

Here are some important features of charting; these also apply to charts in the labs rapid entry screen.

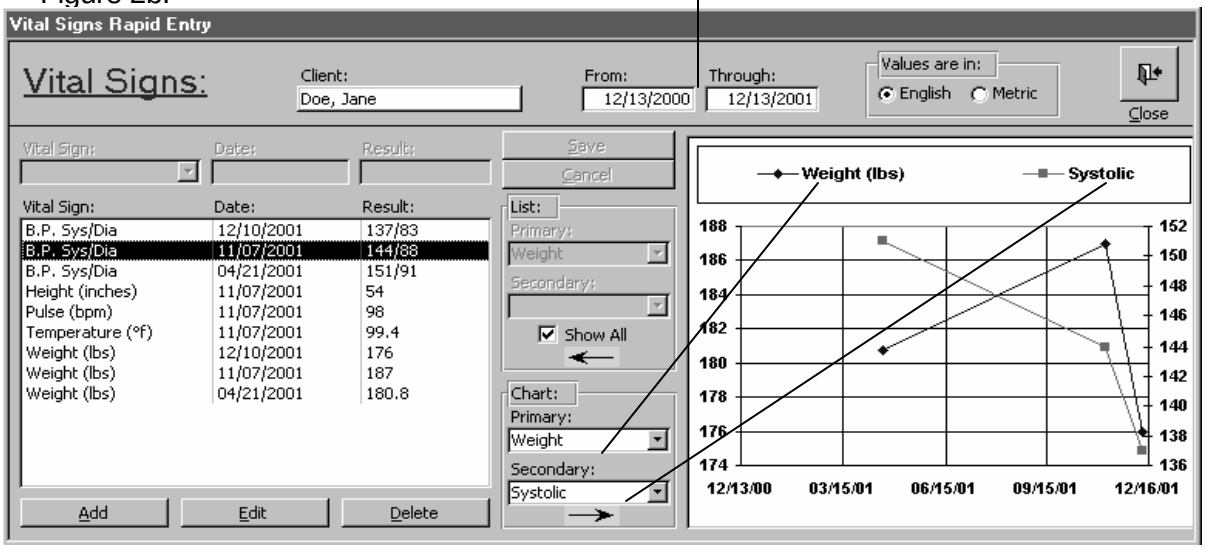
- **All charts in the CERF are created from the Rapid Entry Screens**

- Click the "Show All' checkmark in the center of the screen to list all vital signs recorded on all encounter dates. The list is sorted by vital sign and descending date. To show only one or two specific vital signs, click off the "Show All" checkmark and use the pull-down Primary or Secondary list boxes to select those two items you want visible.

- All charts use date of test result on the X or horizontal axis; the vital sign or lab test designated as the Primary will be plotted on the left side of the Y or vertical axis; the Secondary variable, if desired, is plotted on the right side of the Y axis.

Default Date Range: The default date range for the horizontal axis is one year from the current date. These values can be changed as needed. The axis will be split into four equal time periods, whatever date range you select.

Figure 2b.

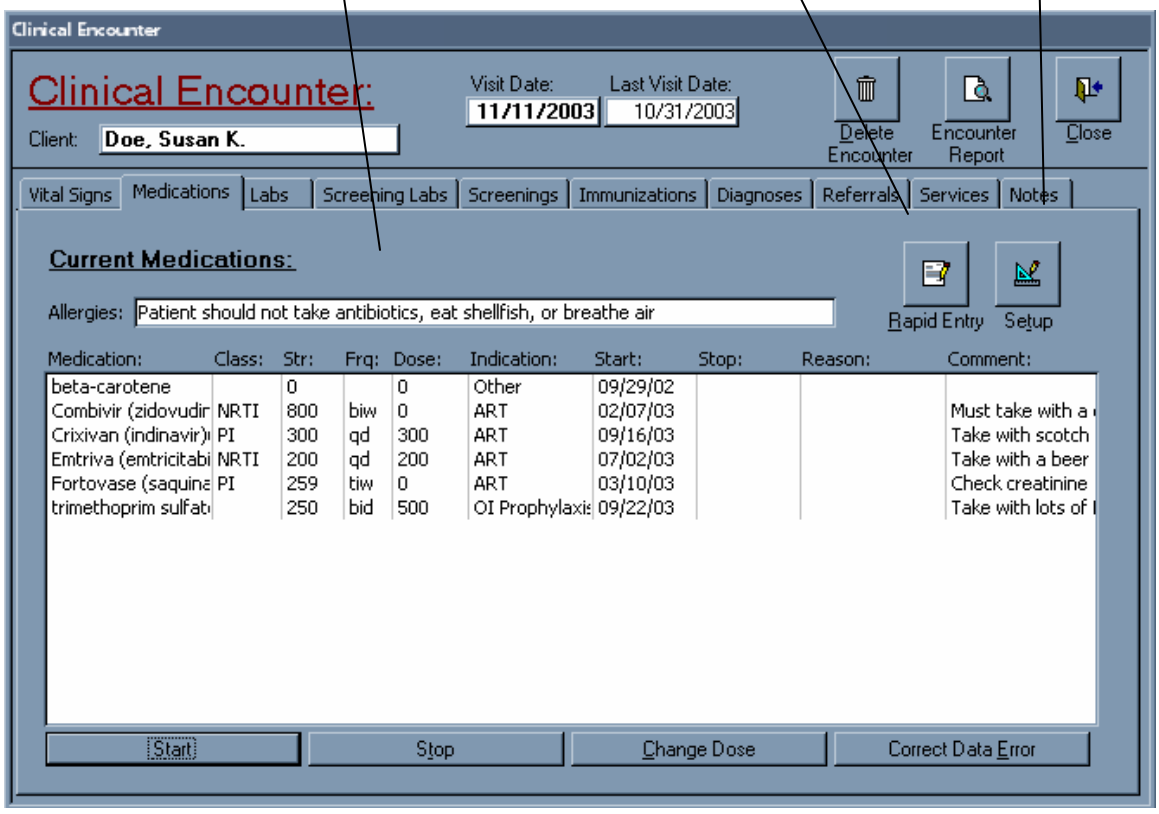


Current Medications

Enter medications with a start date of the current encounter on the CERF Current Medications screen shown in figure 3a.

Click **Rapid Entry** to enter a medication started in the past or that has been stopped, or to change the dose of a current medication, or to fix data from a past medication entry.

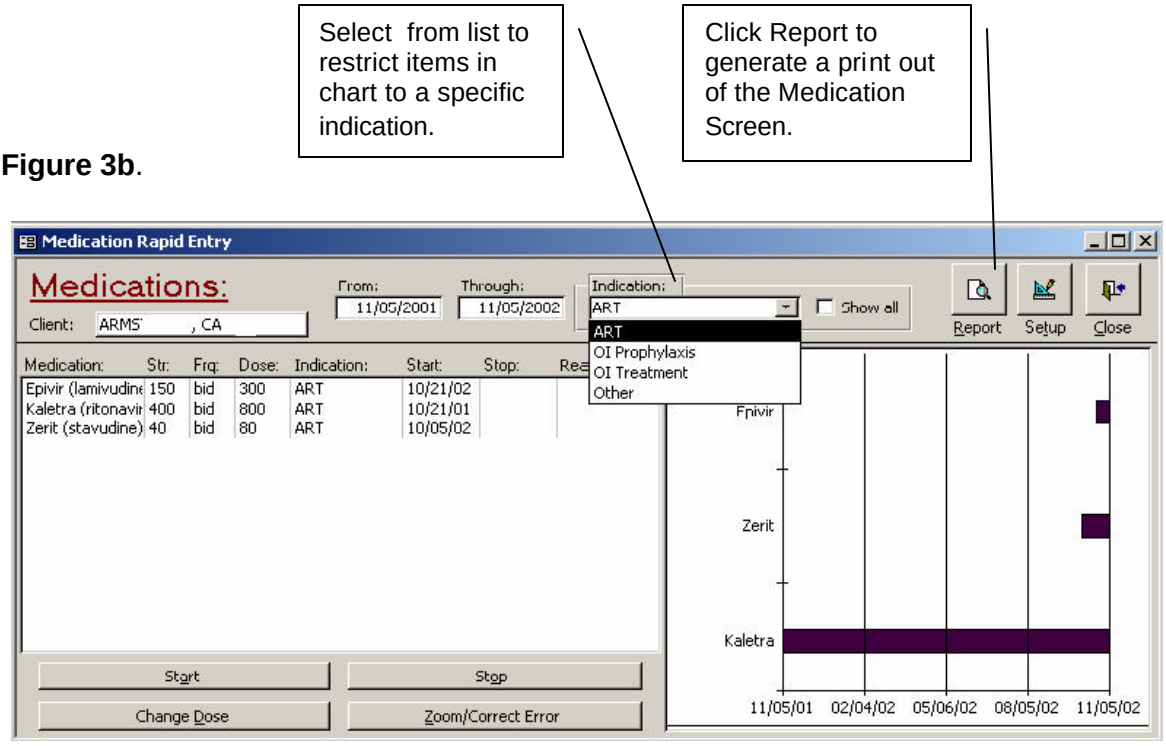
Figure 3a.



- **Start**: Click theStart/Stop button in the lower left to start or stop a medication on today's visit date
- **Dose Change**: If the dose of a medication is being changed, and you need to maintain a record of the previous dose, click the "Change Dose" button.
- **Correct Data Error**: Click this button on the bottom right of the screen if there is a true data entry error that needs to be fixed.
- **Starting in Version 3.5**: Text field added to list allergies.

Remember: The Medications CERF screen lists only CURRENT medications; go to the Rapid Entry screen to view the client's full medication history.

Figure 3b.



- By default, any medications prescribed in the last year prior to the current date will be listed. This date range can be changed at any time. The from and through dates are on the top of Figure 3b.

- The bars in the chart on the right represent the medication start and stop date or current date. Draw a vertical line at any time point to determine all the medications the client is taking at that point.

- Use the buttons on the lower left to Start, Stop, Change a dose, or correct a data entry error for any of the medications.

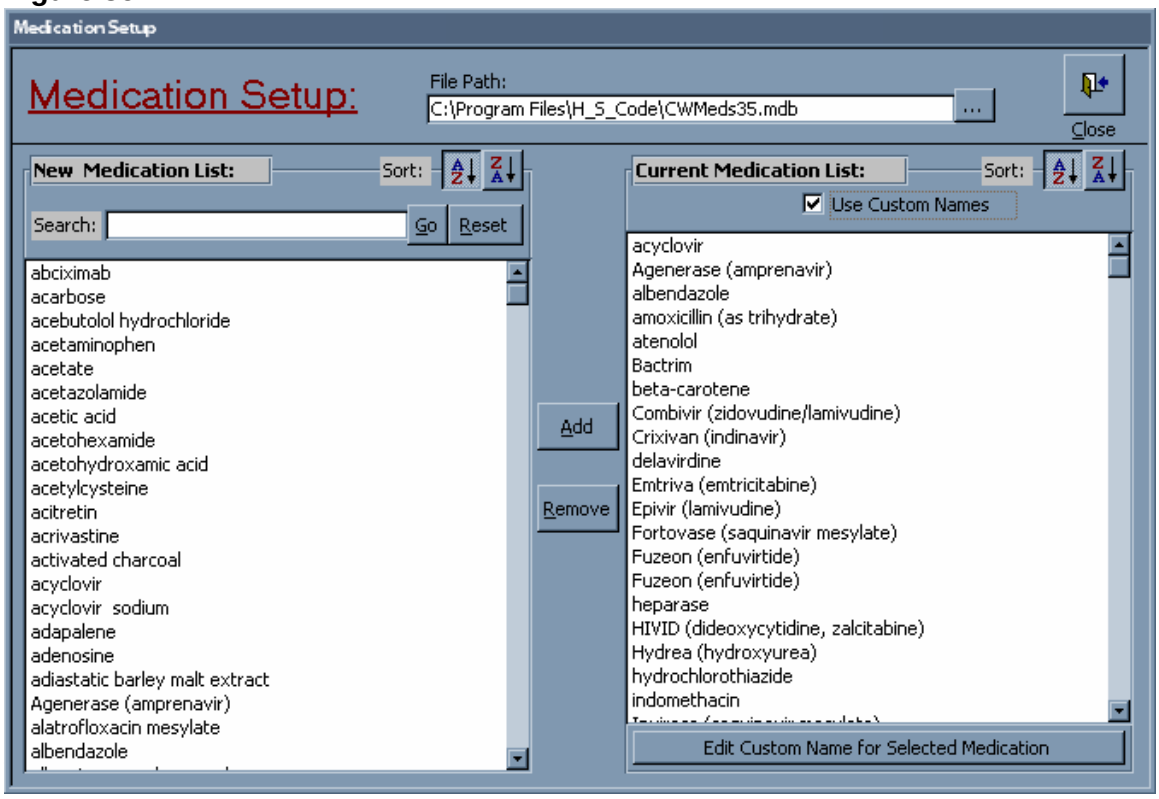
NOTE: You can restrict the items charted to a specific indication; for example, you may want to graph antiretrovirals only.

- Press Ctrl + P on your keyboard to activate your computer's print menu for any CAREWare reports, including any of the CERF Rapid Entry reports. (Ctrl=Control)

Medications Setup-Active ingredient list

Click the "Setup" protractor either on the Medication CERF screen (figure 3a) or the Rapid Entry Screen (figure 3b) to access the full medication list and add new drugs to your own customized list box.

Figure 3c.



2. To add a medication to your customized list:

- *First make sure you are attached to the drug file*. Do this by clicking the 3-dot ellipsis to the right of the file path space at the top of the screen. Browse to the proper location and click the latest medications database. Updated medication files are posted on the CAREWare website.

- Search for a drug by typing the text in the available space on the left under "New Medication List."

- Type in the medication's active ingredient (generic name); you can type in any part or all of the drug name. For HIV antiretrovirals, brand names are also listed.

- Click Go. If found, the active ingredient will appear. If you only typed in part of the drug name, (such as "rifam"), all medications that contain the string "rifam" will appear below in the list box.

- If you've found the correct medication, click the "Add" button in the center of the screen and that specific item will be added to your Current Medication list on the

right-hand side of the screen. *You may delete an item from your Current Medication list only if the medication has not been applied to any client in the database.*

- **Starting in Version 3.5,** users can apply their own customized name to a specific drug. Typically, users may want to use a drug's brand name in lieu of the active ingredient. For example, on the right-hand side of figure 3c, we have applied the name 'Bactrim' to the active ingredient trimethoprim sulfate. As a result, Bactrim will appear in all medication reports, and not trimethoprim.

- **To customize a medication name,** simply select a medication and click the **'Edit Custom Name for selected Medication'** button on the bottom right. The following screening will appear (of course with the medication you have selected);

- **Simply enter your custom medication name in the appropriate box and click save. Now on the main medications setup screen, click on the button "Use Custom names" (figure 3c above.)**

Important information on the source of medication database

The medication database used in CAREWare is adapted from the Centers for Medicaid and Medicare (formerly HCFA) and the FDA. Medications are listed by active ingredient. Brand names are provided for HIV antiretroviral medications only.

Updates to this file will be distributed periodically by HRSA/HAB through the CAREWare website.

NOTE: The following two websites provide very useful information regarding HIV therapy:

- www.hivatis.org (AIDS Treatment information Service); Go to Treatment Guidelines

- http://aidsmeds.com

Labs

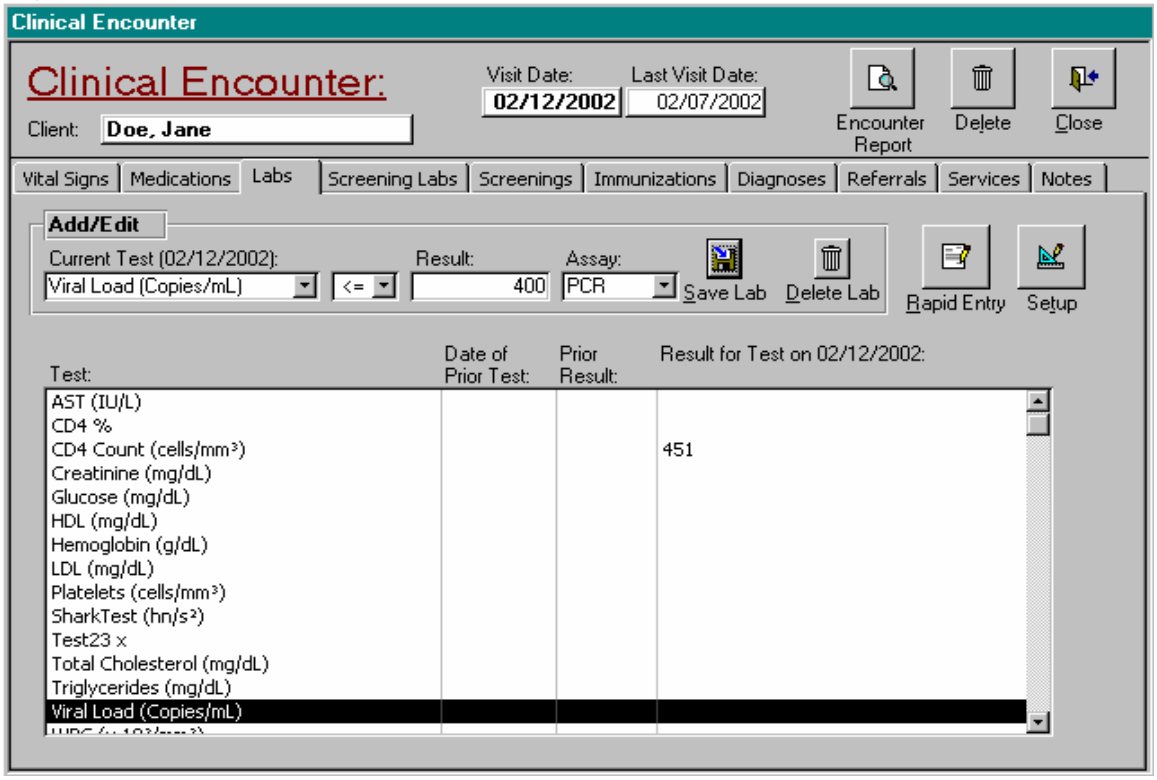
The current Labs CERF is shown in Figure 4a. Use this screen to enter any of the labs for which the test date is the current visit date shown in the middle, at the top of the screen.

The Labs CERF comes with a variety of common tests pre-populated. Use the Setup Button to add any new quantitative tests or change normal ranges for any tests.

Undetectable Viral Loads

For undetectable Viral Load values, set the operator to "<="; you can also indicate the type of assay used. See the example in Figure 4a.

Figure 4a.



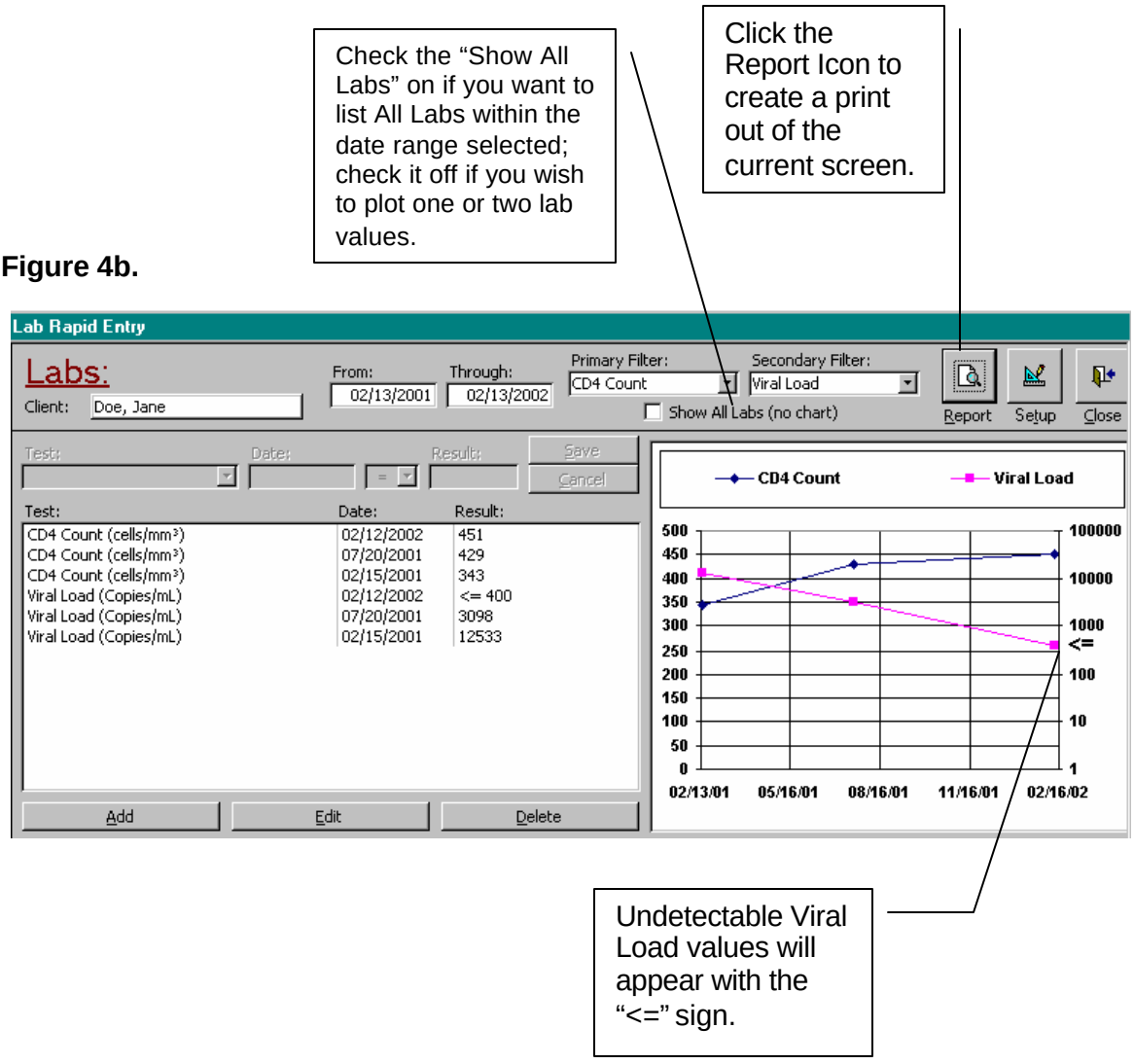
Labs Rapid Entry

Click the Rapid Entry icon to enter or edit data through the Labs Rapid Entry screen (Figure 4b).

- To list all lab values within a specific date range, click on the **Show All Labs (no chart)** check box. As it states, no chart will appear.

- To produce a chart, click off the "Show All Labs" and in the boxes labeled Primary and Secondary Filter, select the labs you want charted. You can select one or two. The axis for the primary value is on the left; in the example below it is the CD4 count; the axis for the secondary value (if selected) is on the right; in the example it is viral load.

Figure 4b.



- To create your own lab tests that have quantitative values, or to change normal ranges for any tests, enter the Lab Setup by clicking the "Setup" button on either the CERF or Rapid Entry screens. The screen in Figure 4c will appear.

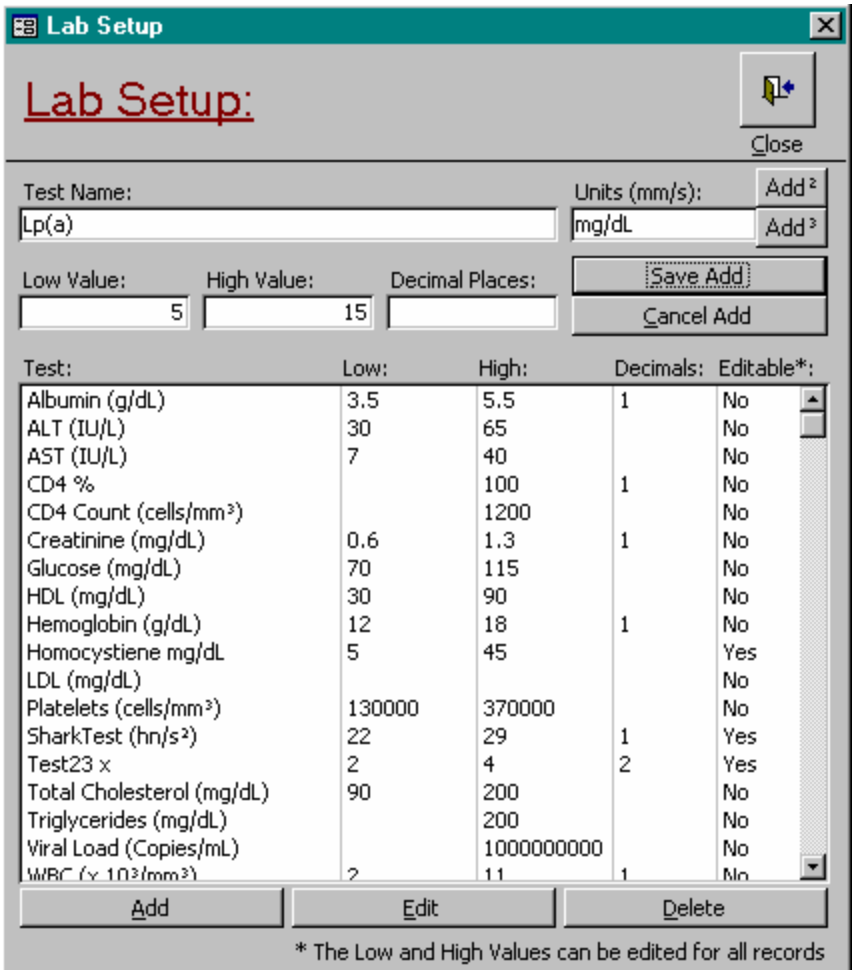
- Click the "**Add**" button on the bottom left to add a new test; the Test Name field will be activated. Type in your new test name. In the example, we have entered Lp(a), a type of cholesterol.

- You may also enter the **Units** for this test. While this is not required, it may be helpful to reduce data entry confusion when copying information from Lab Reports sent to your clinic. If your unit requires an exponent (squared or cubed), click the appropriate button Add^2 or Add^3.

- You may also establish a **Low and High normal range value**. Values entered out of this range will result in a warning message.

- To edit a customized test or normal range, first highlight the test, then click Edit at the bottom of the screen; to delete a test, click Delete.

Figure 4c.



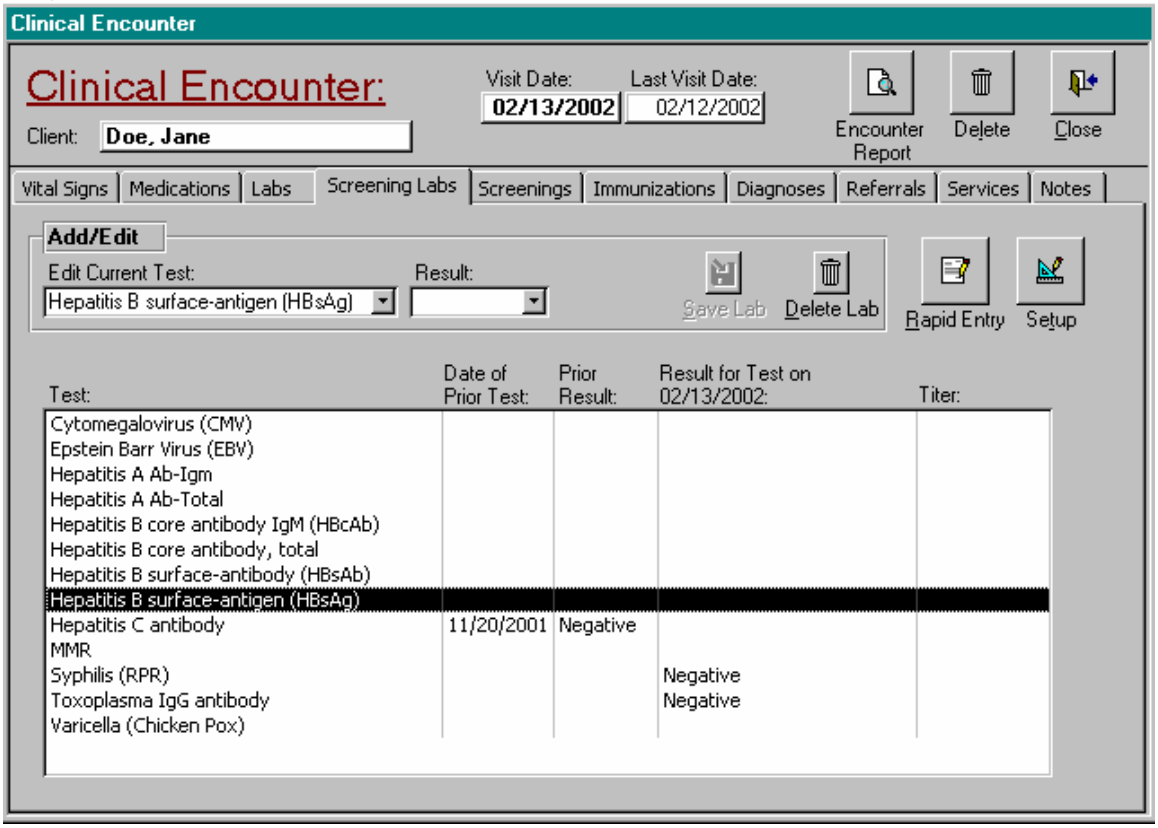
Screening Labs

The screening labs CERF screen is shown in Figure 5a. Serology test results done on the current date should be entered here, otherwise use the Rapid Entry screen.

Labs vs. Screening Labs: Screening Lab tests are those whose result is Positive, Negative, or Unknown, and for which a titer may be provided; the **Labs** entered in the previous tab are tests that have a quantitative or numeric result such as a CD4 count or cholesterol level.

- Note that any prior Screening lab/serology test results and the date performed will be listed (e.g. Hepatitis C in Fig 5a), along with any results obtained on the current date.

Figure 5a.



Screening Labs Rapid Entry

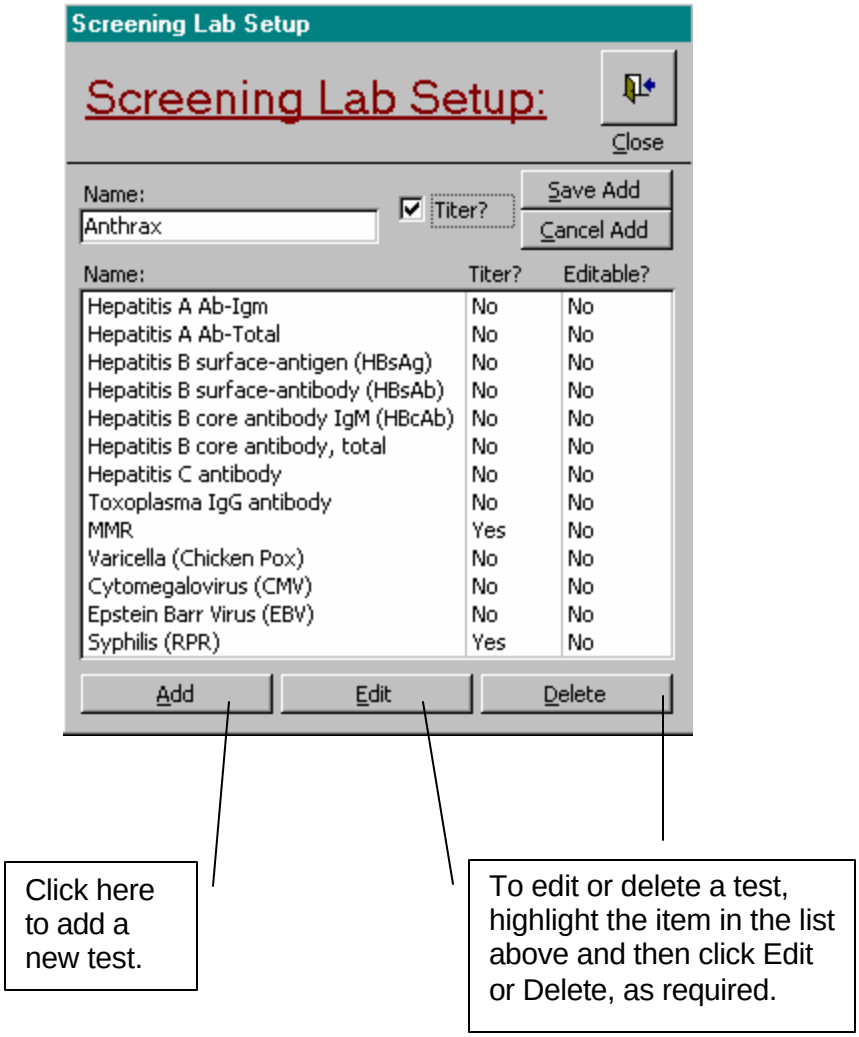
Click the Rapid Entry Icon to go to this screen (not shown). Enter or edit data on screening lab results from any date. Rapid Entry Reports can be generated directly from that screen by clicking the Report Icon in the top right.

Screening Labs Setup

To create your own screening labs, click the Setup icon; the screen in figure 5b will appear.

- Click Add at the bottom left to add your own Screening Lab; in Figure 5b we are adding an Anthrax test; if you want to collect the Titer, click the appropriate box.
- The list of Screening Labs that are pre-populated cannot be changed (are Not "Editable"). This is indicated in the far-right column.

Figure 5b.



Screening

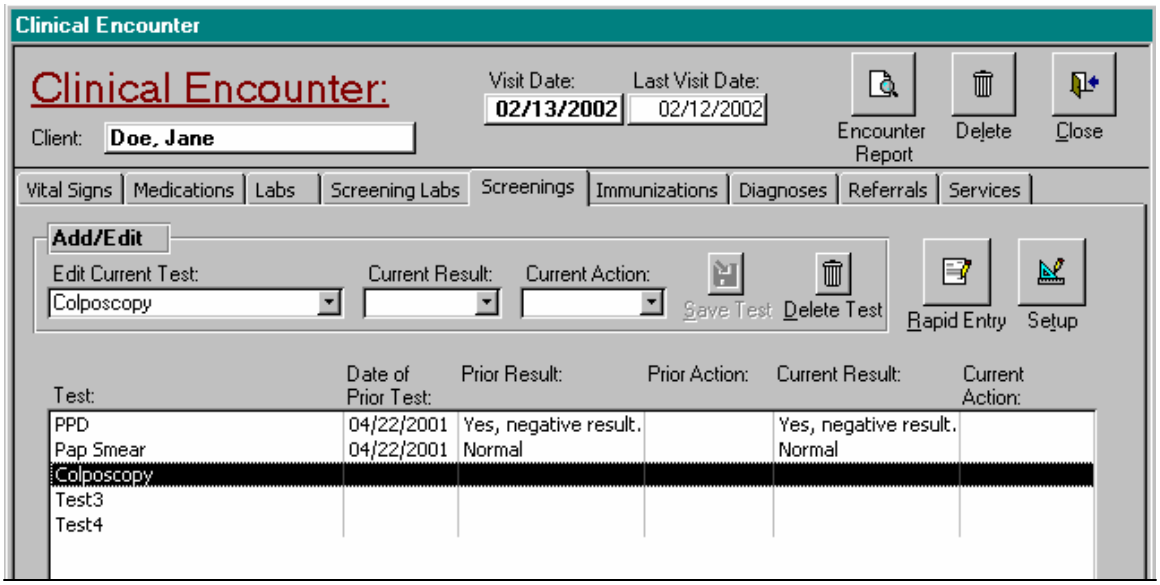
Three main screening tests can be tracked in this portion of the CERF: PPDs or Tuberculin Skin Tests; Pap Smears, and Colposcopy results. In addition, users can create their own screening tests and customize the result response categories and Action or treatment responses.

Figure 6a shows the Screening CERF; it is populated with the most recent screening results (when available) for this client. In this example, the client had a PPD placed and a Pap smear done on 04/22/2001.

Current results and/or treatment "actions" that pertain to the current visit (02/13/2002) are shown in the two right-hand columns.

- TB Chest Radiograph has been added as a default screening test.

Figure 6a.



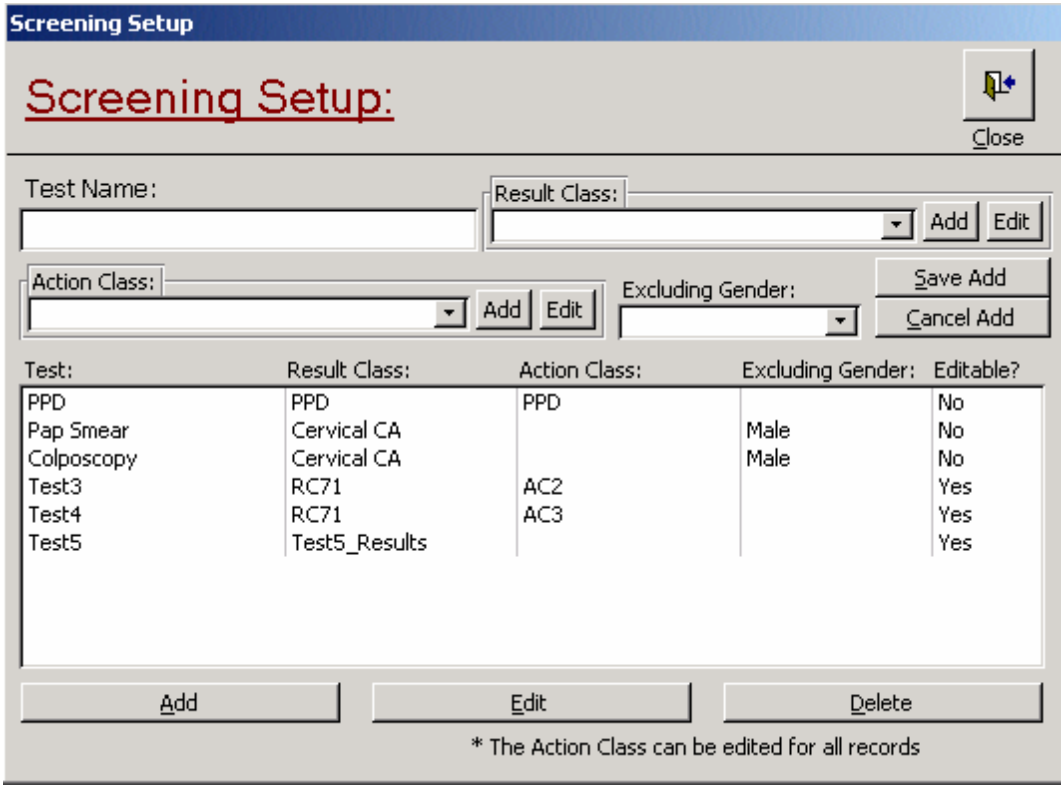
- Click the Setup Icon in the CERF or the Rapid Entry Screen to create a new Screening Test.

- Click **Add** at the bottom left to enter the name of the new test.

- **Result Class**: Establish your own result categories for this test; this "Result Class" can be applied to any other Screening test that you create yourself, eliminating the need to create new response categories for each new test.

  First, give your Result Class a meaningful name in the space provided and then click the Add button next to the Result Class field. The screen in Figure 6c will appear. We've named the Result Class here "Cancer Result." This result can be retrieved and edited at any time.

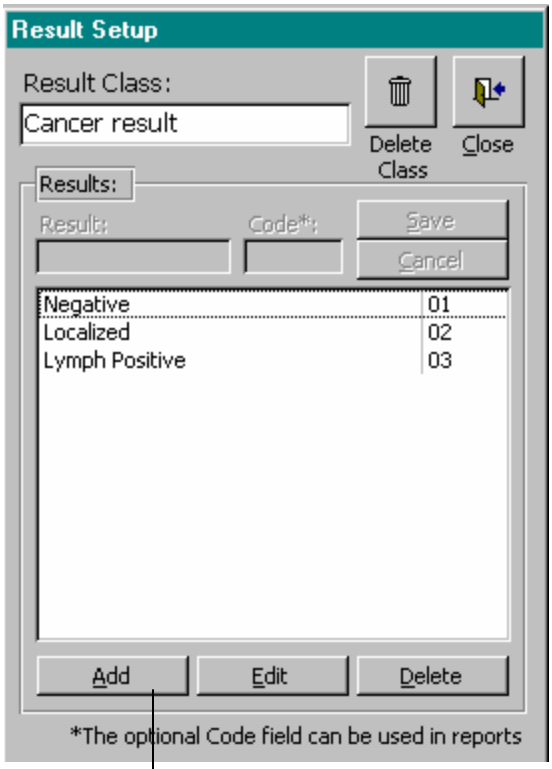
Figure 6b.



- For a screening test that is not applicable to a specific gender (such as pap smear in males), then indicate this in the field labeled "Excluding Gender."

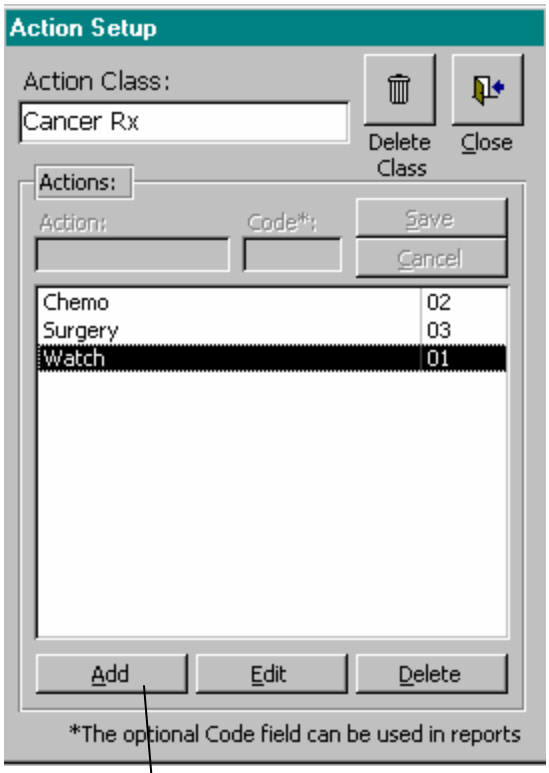
- **Action/Treatment Class**: To create Action or Treatment response categories, click the Add button next to the Action Class field in the main Screening setup module (Figure 6b). The screen in Figure 6d will appear. First name the Action Class (we've named it "Cancer Rx") and then click Add at the bottom left to establish each code. You will need to click Add for each new response category.

Figure 6c.



Click "Add" to create each new Result code

Figure 6d.



Click "Add" to create each new Action or treament code.

Remember, once you've create a Result or Action Class, you can apply them to any new test(s). (Put another way, the same Result or Action response categories can be associated with different tests.)

Immunizations

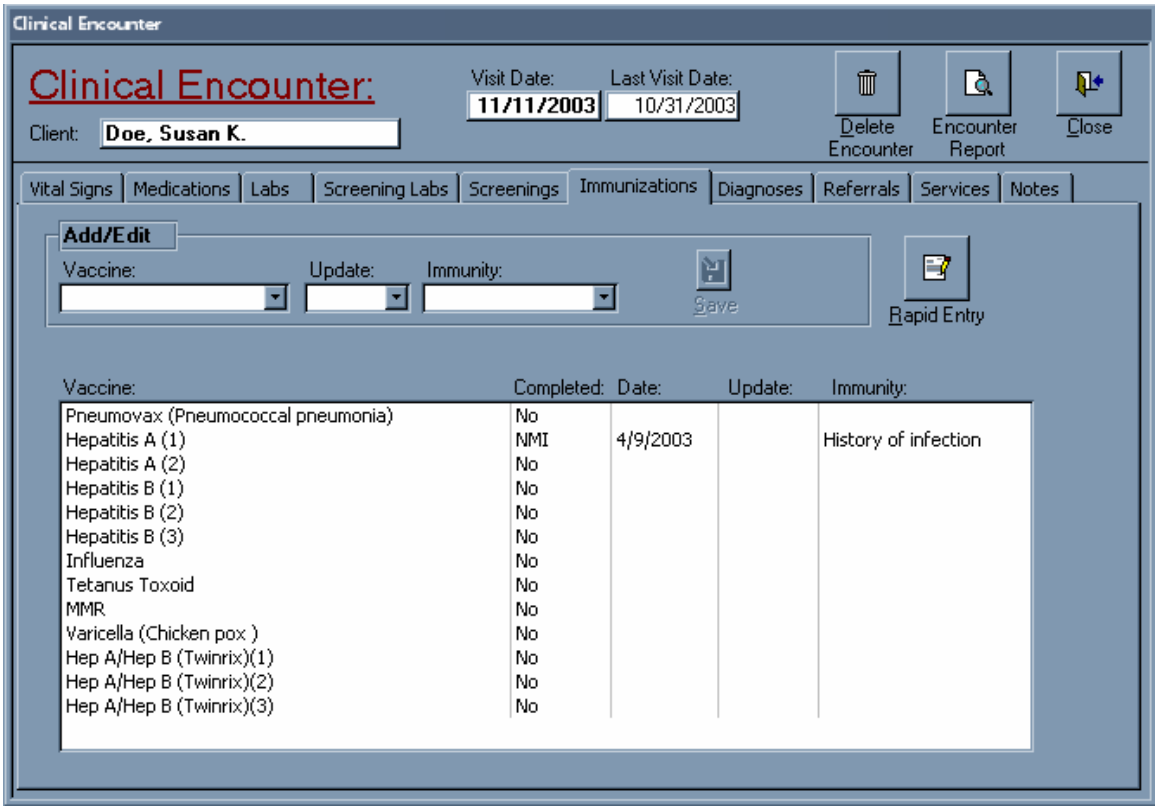
Click on the CERF Immunizations tab to track the following vaccinations:

- Pneumovax, Hepatitis A and B, Influenza, MMR, and Varicella (chicken pox)

- As in all CERF screens, the most recent information from a previous encounter will be populated in the column labeled “Completed” with the date. For example, in Figure 7, this client had a Pneumococcal vaccine done on 10/20/1999.

- Note that there is not a Setup screen for Immunizations.

Figure 7.



Diagnoses

Click the Diagnoses Tab to enter any HIV or non-HIV related medical conditions diagnosed at any time. However, you may first need to go to the Diagnosis Setup screens to add specific diseases and codes to your custom list.

- We have pre-populated the "Current Diagnoses List" with the main AIDS-defining conditions; this list may likely not be complete or sufficient for your clinical data tracking needs. See the appendix for a list of these AIDS-defining conditions and their ICD9-cm codes.

Diagnoses Setup

- Medical conditions currently on your list are shown in the right-hand box (see Figure 8); both the condition name and ICD9-CM code are shown.

- To add a new condition to your list, you will first need to attach to the complete ICD9-cm database provided. First click the 3-dot ellipsis to the right of the File path box.

- Browse to the correct folder on your C-drive where the ICD9 file has been placed following installation of CAREWare. The default location is: 'C:\Program files\H_S_code' and the file name is 'Icd9_30a.mdb.' If attachment to this file is successful, you should see a message that says: "New diagnosis definitions have been imported." Click OK.

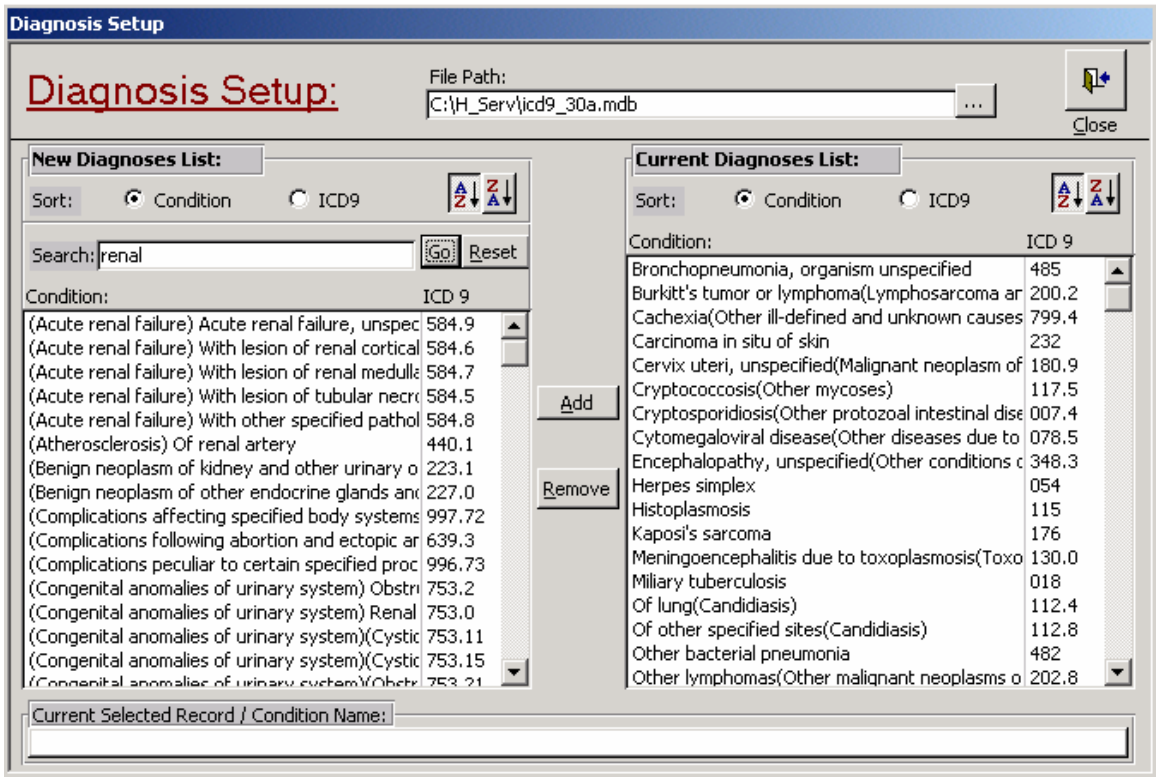
- Now, in the New Diagnoses List area on the left-hand side of the screen, enter all or part of the disease name in the "Search" space. It is likely that the complete name will not be known; enter any part.

- Click the "Go" button (or press the letter G).

- Any medical condition that meets your search criteria or contains that string anywhere in the description will come up in the large box on the left-hand side of the setup screen. This list can be sorted by condition or ICD9 code.

- If your search results in the correct code(s), then highlight that condition in the left-hand box and click the "Add" Button in the center of the screen to move it to your current list.

Figure 8.



- The ICD9-CM (Clinical Modification) file provided in this version of CAREWare was obtained from the following DHHS/CDC/NCHS website:

  http://www.cdc.gov/nchs/icd9.htm#RTF

- If you do not find the condition you are looking for, access this website for further information.

- This ICD9-cm database is HIPAA compliant

Referrals

Good News! The Referrals module is also accessible by non-CERF users from the regular CAREWare Services screen.

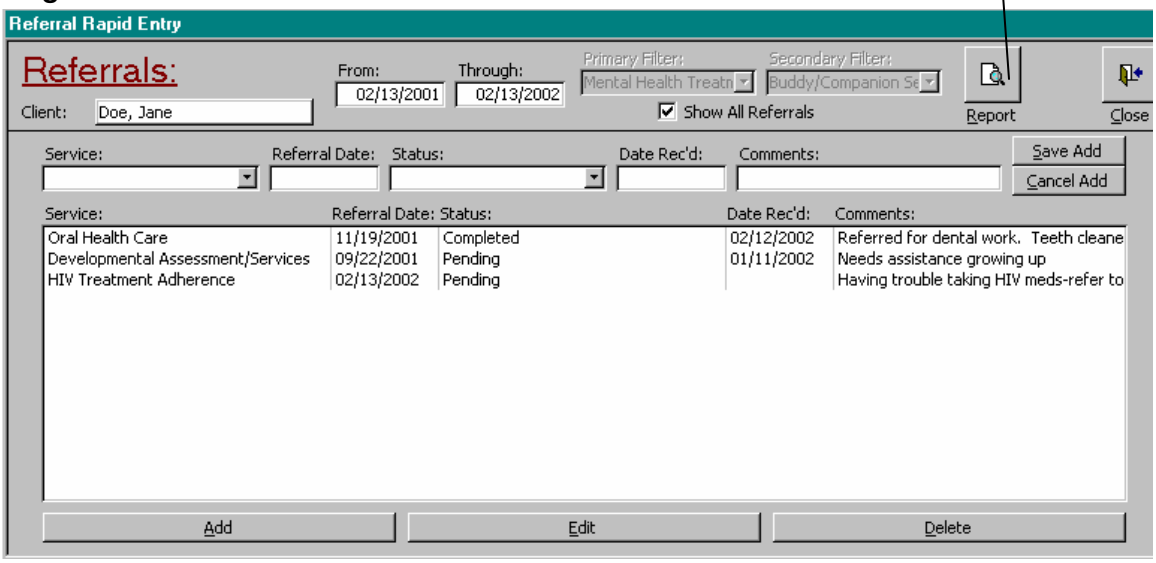
In the CERF Referrals screen (not shown), enter any services for which the client is referred on the current date.

> Referral status should initially be set to "Pending." Enter the Date Received when your agency receives formal documentation that the client followed-up with the referral.

Go to the Referral Rapid Entry screen (Figure 9a) to add or edit referrals from any date and to print a referral report.

Click here to print this client's referrals within the date range selected.

Figure 9a.



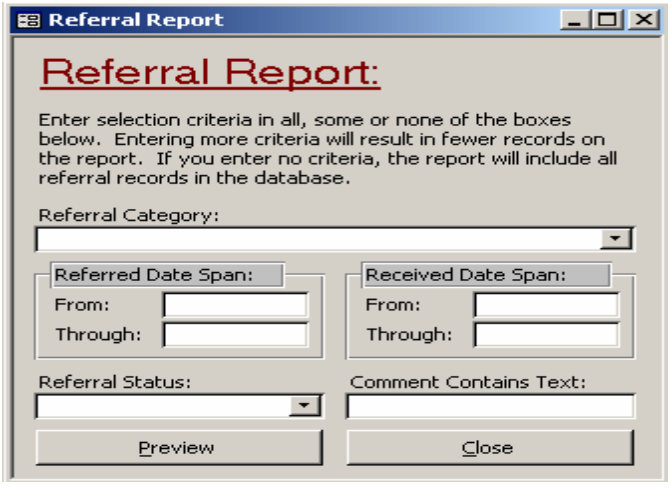
In the reports menu, click Referral Report and the screen in Fig. 9b will appear. You may restrict your report by a variety of factors:

- Service category
- Date referred
- Date service received
- Status (pending, completed)

or

- Select referrals that contain any specified string of text in the Comment field.

Figure 9b.



Services

The “Services” tab in the CERF is simply the existing services module in CAREWare.

Counting Services

IMPORTANT Data entry note: If you track client encounters in the CERF, and you want to have that client’s clinical encounter counted as a regular CARE Act service, ***you must also enter a regular CARE Act Service for the client on the same day that they had a clinical encounter.*** If not, the encounters rendered on that day that are only entered in the CERF will *not be counted* when the HRSA aggregate CARE Act Date Report (CADR) is generated. In this important way, a clinical encounter differs from-- and is tracked separately from-- a regular service visit.

Case Notes

The case notes feature can now be accessed in the CERF and on the Demographic screen in CAREWare. The case notes field is simply a wide-open text box to enter clinical or case management notes.

- The Notes feature is accessible by CERF and non-CERF users alike from the main Demographic Tab in CAREWare.

Go to Notes Rapid Entry to view or retrieve any prior case note *and* to print out a report.

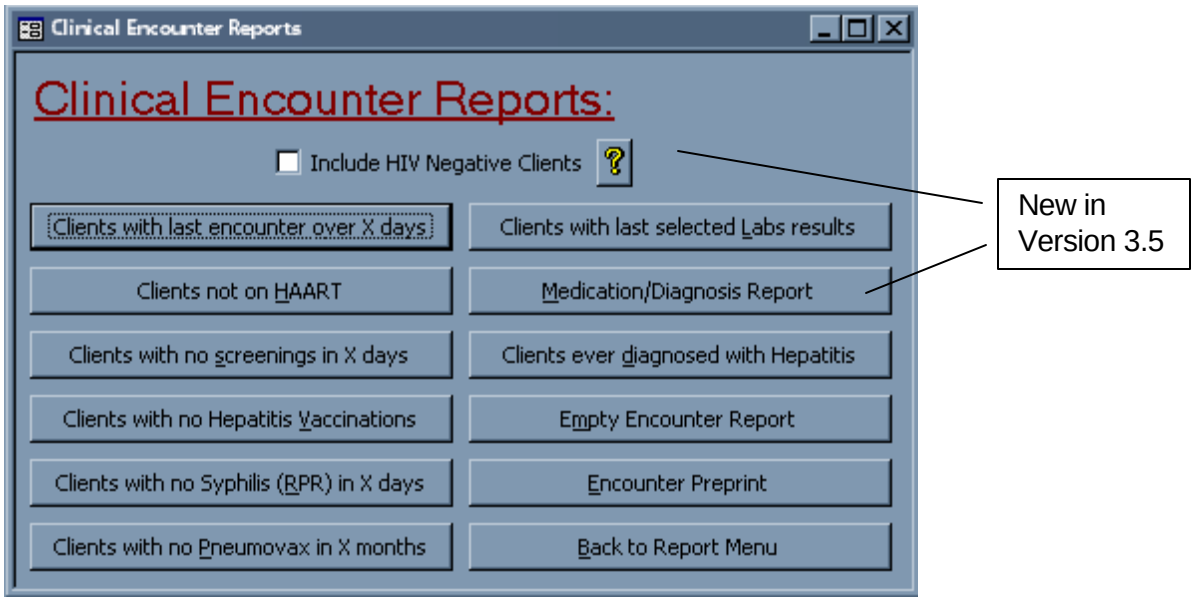
Administrative protection of Case Notes

- Only individuals who enter CAREWare with administrative passwords can edit and change the case notes;
- Non-administrators can type in *new* notes and *append* text to existing case notes, but they cannot change or edit existing text; to append text, click the “Append” button, and a separate screen will pop up.
- Go to the User Manager in Administrative Options to create new user accounts with and without (data only) administrative privileges (see main manual).

Clinical Encounter Reports

To access clinical encounter reports, go to the main menu, click Reports and then Clinical Encounter Reports on the right-hand column. The following screen will appear:

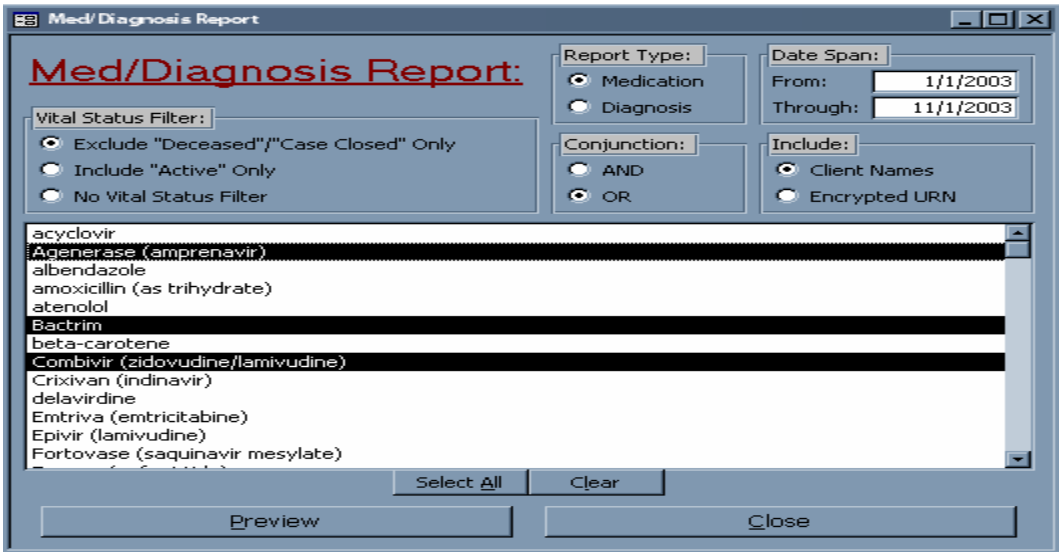
Figure 10a.



New in Version 3.5:

- Include/exclude HIV negative clients: Click the box at the top to Include HIV Negative Clients; by default CAREWare will exclude HV negatives from these reports.
- Medication/Diagnosis Report: Two new quick reports have been added that allow the user to create a list of clients prescribed specific medications or diagnosed with specific condtions.

Quick Medication and Diagnosis Reports*



Set up the Medication and Diagnosis Reports in the same manner:

- Select the report Type:
- **Enter a date span**: For medications, the report will list any client with a medication prescribed during that span; for diagnoses, it will include any client with the selected condition diagnosed during the date span.
- **Select a Vital Status filter** depending on who you like included or excluded.
- **Select the And/or conjunction:** In the above example, selecting the AND conjunction would result in a list of clients who are on ALL 3 of the medications highlighted; Selecting the OR conjunction would result in a list of clients who were on any ONE of those medications.
- **Finally, you can include client names or encrypted URNs on the report (for greater confidentiality)**

Here's the result from our medications example :

Client Medications

From: 1/1/2003
Through: 11/10/2003
Includes: Agenerase (amprenavir) OR Bactrim OR Combivir (zidovudine/lamivudine)

eURN:	Medication:	Str:	Frq:	Dose:	Start Date:	End Date:	Ind:	Reason:	Comment:
1eiROr4Yp	Bactrim	250	bid	500	9/22/2003		OI Prophylaxis		Take with lots of fluids
1eiROr4Yp	Combivir (zidovudine/lamivudine)	800	biw	0	2/7/2003		ART		Must take with a glass of milk to settle stomach.
2LCTDxV+9	Combivir (zidovudine/lamivudine)	250	q6h	0	9/26/2003		ART		
hmnVrxI2T	Agenerase (amprenavir)	500	qid	2000	3/27/2003		ART		Take with water, food, Exlax
jfY87O+Ji	Combivir (zidovudine/lamivudine)	125	tid	375	4/26/2002		ART		

Formatting and Printing the Encounter Report

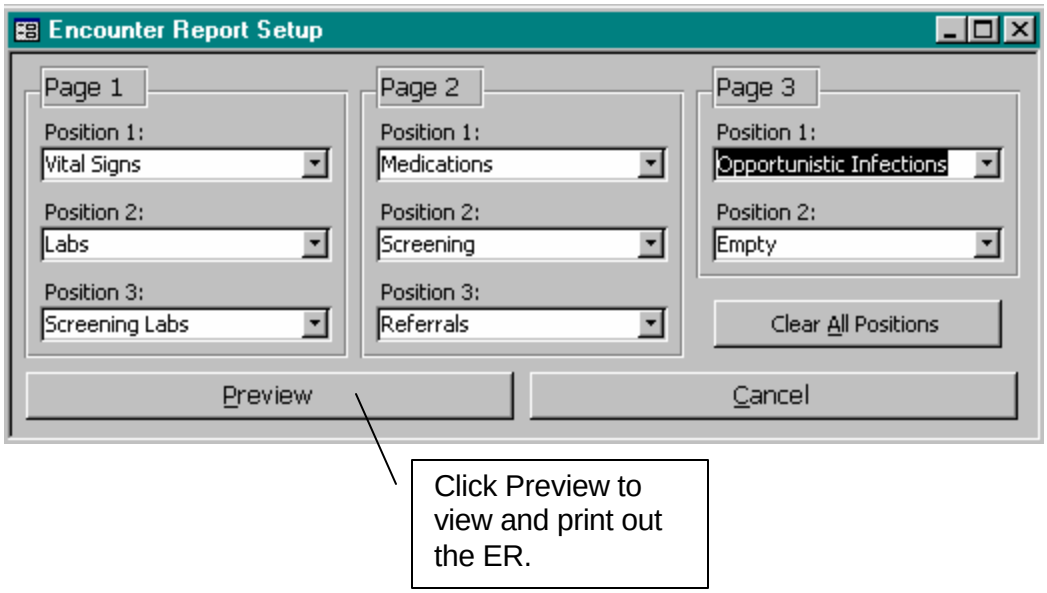
Click the "Encounter Report" (ER) button at the top right of **any** CERF screen to format and print this report (Figure 10).

1. For each page of the ER, select which part of the CERF you would like to print, and the order in which it will appear. You can select any or all of the CERF tabs.

2. Click Preview to review and print out, if desired.

2. Hit "Clear All Positions" if you would like to start over and change the positions of the information.

Figure 10b.

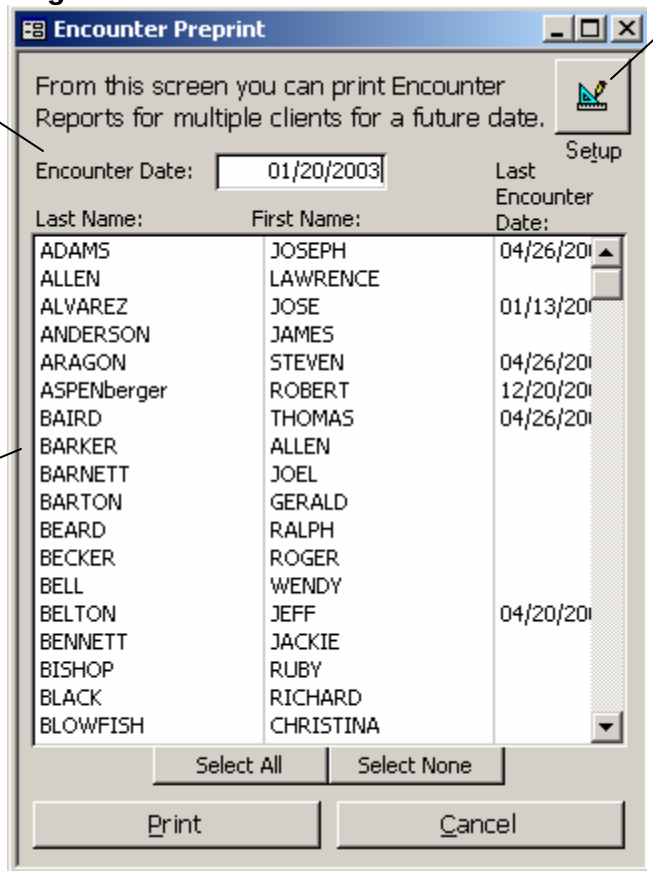


Encounter Preprints for Multiple Clients

Starting in version 3.3, you can print out Encounter Reports in advance of the actual clinic visit and for multiple clients simultaneously. For example, the day before a client is seen, the clinician may wish to view the recent clinical record of those individuals scheduled for a next-day visit.

To do this: Click Reports on the main menu, and then Clinical Encounter Reports in the right-hand column (see Figure 10a.)

Figure 10c.



Enter an Encounter date here. This date will appear on the top of the report.

You may select any clients whose ERs you would like to print. Simply highlight the desired names with your mouse.

Click Setup to access the screen in Figure 10b.

Reports: HIV CARE Key Measures

1. Reports restricted to clients whose Vital/Enrollment status NOT equal to Deceased or Case Closed.

HEMS Report #	New CAREWare Title	Comments
2	Clients whose last clinical encounter was over XXX days ago	
10	Clients not on HAART	HAART is defined as any one of the following combinations: 1) 2 NRTIs + 1 or more PIs 2) 2 NRTIs + 1 NNRTI 3) Ziagen (Abacavir) + Two other NRTIs Exceptions: The two other NRTIs cannot be Retrovir (ZDV) + Zerit (stavudine/d4T) The PI Invirase must be prescribed along with Norvir (ritonavir)
20	Clients with no PPD Screening in XX days	Excludes clients with prior TB treatment or positive PPD.
21	Clients with no Pap smear in XX days	Females only
22	Clients with no Hepatitis A or B vaccine (susceptible) **OR** Clients with missing doses (including Twinrix)	Hep A: Restricted to clients who are **Negative** for **both** HepA Ab-Igm and Total HepA Ab Hep B: Restricted to clients who are **Negative** for HepB surface antibody IgM (HBsAb) AND surface antigen (HBsAg)
23	Clients with no syphilis (RPR) serology in XX days	
24	Clients with no Pneumovax in XX months	
30-38	Clients whose **last** selected lab value was less than or greater than XX	Select any lab value.
40-41	Clients ever diagnosed with or vaccinated for Hepatitis B Clients ever diagnosed with HepC	Hep B: Restrict to clients who are **Positive** for HBsAb (surface antibody) **OR** HBsAg (surface antigen) Hep C: Clients who are Hep C antibody positive
60-71	No service visit in XX days	Go to Reports Menu

CERF/CAREWare Translation

IMPORTANT: Except where noted, values entered in the CERF can be viewed BUT NOT ENTERED OR EDITED in the clinical review side of CAREWare. For some values, there is not an exact one-to-one relationship between the CERF and its Clinical Review equivalent; in these instances, users will able to modify the entry on the Clinical Review side. These fiields are noted in the table in the column labeled Comments with the text **"Editable in CR."** Remember: changing values on the CR side only may result in slightly different information than appears in the CERF.

CERF Tab	CERF Field(s)	Map to Clinical Review (CR) Tab	Clinical Review (CR) Field	Comments
Labs	Latest CD4 Count and viral load From Jan 1-March 31	Qtr 1	Cd4+ Lymphocyte Count and month of test Quantitative Viral Load and month of test	Undetectable Viral Loads in CERF that have <= operator are set to one less than the value (e.g. 399 or 49) in the CR Tabs
	From April 1-June 30	Qtr 2	same	same
	From July 1-Sept 30	Qtr 3	same	same
	From Oct 1-Dec 31	Qtr 4	same	same
Medications	Current ART regimen from Jan 1-March 31	Qtr1	Antiretroviral Medication (Only require abbreviated drug name)	Includes only ARVs without a stop date in this calendar Quarter
	Current ART regimen from April 1-June 30	Qtr 2	same	
	Current ART regimen from July 1-Sept 30	Qtr 3	same	
	Current ART regimen from Oct. 1-Dec. 31	Qtr 4	same	

CERF Tab	CERF Field(s)	Map to Clinical Review (CR) Tab	Clinical Review (CR) Field	Comments
Medications	Antiretrovirals	Annual 2	If NO ARVs prior to current year then **HIV Medication History ART** value set to "Yes, patient prescribed ARVs for first time this year." Set to "No, patient already on ART" if any ARVs prescribed in any prior year.	
Medications	Number of Antiretrovirals	Annual 2	If # of ARVS=1 then Antiretroviral Type=Monotherapy; Else if ARVs=2 then Antiretroviral Type=Combination but not HAART; Else if ARVs meet HAART definition then Antiretroviral Type=HAART	**EDITABLE IN CR**. See HAART Definition in above HIV Key Measures Report table. NB: If client is on "salvage" therapy, user must enter this in Clinical Review field.
Screening Labs	Syphilis (RPR)=Neg or Pos	STI/HEP	Syphilis=Diagnostic Test Neg or Pos and Test Date	
	1) Total Hepatitis A Antibody Neg or Positive 2) Hepatitis B surface Antibody IgM 3) Hepatitis C Ab=Neg or Pos	STI/Hep	Hep A=Take Total Antibody result from CERF Hep B= Take HBsAb Antibody test result(s) from CERF Hep C= Take test result from CERF	
Immunizations	Pneumovax	Annual 2	Preventive Therapy: 1. Set Pneumovax="No, Not medically indicated if Vaccinated within Last 5 Years" if CERF	

CERF Tab	CERF Field(s)	Map to Clinical Review (CR) Tab	Clinical Review (CR) Field	Comments
			vaccination date is within last 5 years 2. Set Pneumovax=No, not documented in medical record/unknown if CERF Value=No 3. Set Pneumovax=Yes, month received if CERF Date is in the current reporting year.	
Screening	Pap Smear	Annual 2	Preventive Therapy: Pelvic Exam and Pap Smear- Values in CERF identical to CR	**EDITABLE IN CR** Leave TB Prophylaxis/Treatment variable in CR Read/write.
	TB Skin Test	Annual 2	Preventive Therapy: Tb Skin Test: Value in CERF identical to CR	
Diagnoses	The following ICD9 diagnoses are mapped to CR: 1. M. Avium Complex (ICD9=031.0) 2. PCP (ICD9=136.3) 3. Toxoplasmosis (130.0) 4. M. Tuberculosis (011- 018) 5. CMV (078.5) 6. Cervical Cancer (180) 7. Other AIDS-defining condition (any other ICD 9 in the group)	Annual 3	1. MAC 2. PCP 3. Toxo 4. M. Tb 5. CMV 6. Cervical Cancer 7. Other AIDS-defining condition	AIDS-defining Conditions NOTE: If the same condition is diagnosed more than once in the same year, use the latest diagnosis month from the CERF to populate the CR.

Core Measures		
Category	Measure	Goal
Access & Retention	Percent of patients with visit(s) in last 3 months	85%
CD4 Count	Percent of patients with CD4 count <200	25% decline
Viral Load	Percent of patients with undetectable viral load	60%
Clinical Care	Percent of patients on HAART	75%
Self-Management & Adherence Support	Percent of HAART patients with adherence counseling/intervention at their last visit	75%

See next page for additional measure and goals

IHI Collaborative: Additional Quality of Care Measures

Category	Measure	Goal
Access & Retention	Percent of patients with Support Service Assessment	65%
CD4 Count	Percent of patients with CD4 count in the last 6 months	100%
	Average CD4 count	50% rise
	Percent of patients with CD4 count rise of ≥ 50 (last 6 months)	60%
Viral Load	Percent of patients with VL tests in the last 3 months	100%
Clinical Care	Percent with hospitalizations	<10%
	Percent of patients with hepatitis B & C screening	90%
Self-Management & Adherence Support	Percent of patients with Self management goal setting	75%
	Percent of HAART patients who self-report adherence to prescribed regimen (3 months)	90%
Prevention	Percent of patients with PPD	95%
	Percent of patients with pap smear in last 6 months	95%
	Percent of patients with PCP prophylaxis (eligible)	95%
	Percent of patients with pneumovax	95%

Antiretroviral Medications:
Source: http://aidsmeds.com (accessed Nov. 2003)

Brand Name (generic)	Abbreviation	CAREWare Drug code	Standard Daily Adult Dosing
Nucleoside/Nucleotide Reverse Transcriptase Inhibitors (NRTIs)			
Combivir (lamivudine/zidovudine)	AZT+3TC	H00809	300 mg AZT, 150 mg 3TC bid
Emtriva (emtricitabine)			200 mg qd
Epivir (3TC, lamivudine)	3TC	H00808	300 mg qd or 150 mg bid 10mg/L oral solution available
HIVID (ddC, dideoxycytidine, zalcitabine)	ddC	H01545	0.75 mg tid
Retrovir (AZT, ZDV, zidovudine)	AZT	H01548	1 x 300 mg bid
Trizivir (Abacavir/3TC/AZT)	TRZ	H01549	(300 mg AZT, 150 mg 3TC, 300 mg abacavir) bid
Videx (ddI, didanosine, dideoxyinosine) (Also Videx EC delayed release capsules)	ddI	H00464	>60 kg: 2 x 100 mg bid (4 total) or 200mg bid. < 60kg, 125 mg bid
Viread (Tenofovir DF)	TDF	H01395	300 mg qd
Zerit (d4T, stavudine)	d4T	H01359	>60 kg: 40 mg bid <60 kg: 30 mg bid
Ziagen (abacavir)	ABC	H00001	300 mg bid

Non-Nucleoside Reverse Transcriptase Inhibitors (NNRTIs)			
Rescriptor (delavirdine)	DLV	H00422	2 x 200 mg tid (6 pills)
Sustiva (efavirenz)	EFV	H00521	600 mg qd
Viramune (nevirapine)	NVP	H01019	200 mg qd for 14 days then 200 mg bid

Protease Inhibitors (PIs)			
Agenerase (amprenavir)	AMP	H00080	8 x 150 mg bid (16 pills)
Crixivan (indinavir)	IDV	H00741	2 x 400 mg tid (6 pills)
Fortovase (Invirase, saquinavir)	SQV	H01292	8 x 200 mg bid (16 pills) or 6x 200 tid (18 pills)
Kaletra (ritonavir, lopinavir)	KLT	H00851	3 x (133.3 mg lopinavir + 33.3 mg ritonavir) bid (6 pills)
Lexiva (Fosamprenavir)	FPV	H01564	2 x 700 mg bid (4 pills) or 700 mg bid plus 2 x 100 mg Norvir bid (total of 4 pills/day)
Norvir (ritonavir)	RTV	H01277	6 x 100 mg bid (12 pills)
Reyataz (atazanavir)	ATZ	H01562	2 x 200 mg qd
Viracept (nelfinavir)	NFV	H01013	2 x 625 mg bid (4 pills)
Entry/ Fusion Inhibitors			
Fuzeon (enfuvirtide)	ENF	H01561	(2 x 90 mg) subcut. injections

ICD9 codes for AIDS-defining conditions

Condition	ICD9 Code	Condition	ICD9 Code
Candidiasis (bronchi, trachea, or lungs	112.4	Lymphoma, Burkitt's	200.2
Candidiasis (esophageal)	112.8	Lymphoma, immunoblastic	200
Carcinoma, invasive cervical	180.9	Lymphoma, primary in brain	202.8
Coccidiodomycosis (disseminated or extrapulmonary)	114.1	M. avium complex or M. kansasii	031.0
Cryptococcus, extrapulmonary	117.5	M. tb (pulmonary), M. tb (disseminated or extrapulmonary)	011-018
Cryptosporidiosis, chronic intestinal (>1 month duration)	007.4	Mycobacterium, other species or unidentified	031.8
Cytomegalovirus disease (other than liver, spleen or nodes)	078.5	Pneumocystis carinii pneumonia (PCP)	136.3
CMV retinitis (with loss of vision)		22. Pneumonia (recurrent in 12 month period)	480-486
HIV encephalopathy	348.3	Progressive multifocal leukoencephalopathy (PML)	046.3
Herpes simplex: chronic ulcers or bronchitis,pneumonitis or esophogitis	054	Salmonella septicemia, recurrent	003.1
Histoplasmosis	115	Toxoplasmosis of brain	130.0
Isosporiasis, chronic intestinal	007.2	Wasting syndrome due to HIV	799.4
Kaposi's sarcoma (KS)	176		